



## General

### Guideline Title

Renal mass and localized renal cancer: AUA guideline.

### Bibliographic Source(s)

Campbell C, Uzzo RG, Allaf ME, Bass EB, Cadeddu JA, Chang A, Clark PE, Davis BJ, Derweesh IH, Giambarresi L, Gervais DA, Hu SL, Lane BR, Leibovich BC, Pierorazio PM. Renal mass and localized renal cancer: AUA guideline. Linthicum (MD): American Urological Association Education and Research, Inc.; 2017 Apr. 50 p. [264 references]

### Guideline Status

This is the current release of the guideline.



This guideline meets NGC's 2013 (revised) inclusion criteria.

## NEATS Assessment

National Guideline Clearinghouse (NGC) has assessed this guideline's adherence to standards of trustworthiness, derived from the Institute of Medicine's report [Clinical Practice Guidelines We Can Trust](#).

■■■■■= Poor ■■■■■= Fair ■■■■■= Good ■■■■■= Very Good ■■■■■= Excellent

Assessment	Standard of Trustworthiness
YES	Disclosure of Guideline Funding Source
■■■■■	Disclosure and Management of Financial Conflict of Interests
	Guideline Development Group Composition
YES	Multidisciplinary Group
YES	Methodologist Involvement

	Patient and Public Perspectives
	Use of a Systematic Review of Evidence
	Search Strategy
	Study Selection
	Synthesis of Evidence
	Evidence Foundations for and Rating Strength of Recommendations
	Grading the Quality or Strength of Evidence
	Benefits and Harms of Recommendations
	Evidence Summary Supporting Recommendations
	Rating the Strength of Recommendations
	Specific and Unambiguous Articulation of Recommendations
	External Review
	Updating

## Recommendations

### Major Recommendations

Definitions for the body of evidence strength (Grade A, B, or C), the strength of the recommendations (Strong, Moderate, Conditional), and for statements labeled as Clinical Principle and Expert Opinion are provided at the end of the "Major Recommendations" field.

#### Evaluation and Diagnosis

In patients with a solid or complex cystic renal mass, physicians should obtain high quality, multiphase, cross-sectional abdominal imaging to optimally characterize and clinically stage the renal mass. Characterization of the renal mass should include assessment of tumor complexity, degree of contrast enhancement (where applicable), and presence or absence of fat. (Clinical Principle)

In patients with suspected renal malignancy, physicians should obtain comprehensive metabolic panel, complete blood count, and urinalysis. Metastatic evaluation should include chest imaging to evaluate for possible thoracic metastases. (Clinical Principle)

For patients with a solid or complex cystic renal mass, physicians should assign chronic kidney disease (CKD) stage based on glomerular filtration rate (GFR) and degree of proteinuria. (Expert Opinion)

#### Counseling

In patients with a solid or Bosniak 3/4 complex cystic renal mass, a urologist should lead the

counseling process and should consider all management strategies. A multidisciplinary team should be included when necessary. (Expert Opinion)

Physicians should provide counseling that includes current perspectives about tumor biology and a patient-specific risk assessment inclusive of sex, tumor size/complexity, histology (when obtained), and imaging characteristics. For cT1a tumors, the low oncologic risk of many small renal masses should be reviewed. (Clinical Principle)

During counseling of patients with a solid or Bosniak 3/4 complex cystic renal mass, physicians must review the most common and serious urologic and non-urologic morbidities of each treatment pathway and the importance of patient age, comorbidities/frailty, and life expectancy. (Clinical Principle)

Physicians should review the importance of renal functional recovery related to renal mass management, including the risk of progressive CKD, potential short- or long-term need for renal replacement therapy, and long-term overall survival considerations. (Clinical Principle)

Physicians should consider referral to nephrology in patients with a high risk of CKD progression. Such patients may include those with estimated glomerular filtration rate (eGFR) less than 45 ml/min/1.73 m<sup>2</sup>, confirmed proteinuria, diabetics with preexisting CKD, or whenever eGFR is expected to be less than 30 ml/min/1.73 m<sup>2</sup> after intervention. (Expert Opinion)

Physicians should recommend genetic counseling for all patients ≤46 years of age with renal malignancy and consider genetic counseling for patients with multifocal or bilateral renal masses, or if personal or family history suggests a familial renal neoplastic syndrome. (Expert Opinion)

### Renal Mass Biopsy (RMB)

RMB should be considered when a mass is suspected to be hematologic, metastatic, inflammatory, or infectious. (Clinical Principle)

In the setting of a solid renal mass, RMB is not required for: 1) young or healthy patients who are unwilling to accept the uncertainties associated with RMB; or 2) older or frail patients who will be managed conservatively independent of RMB findings. (Expert Opinion)

When considering the utility of RMB, patients should be counseled regarding rationale, positive and negative predictive values, potential risks and non-diagnostic rates of RMB. (Clinical Principle)

For patients with a solid renal mass who elect RMB, multiple core biopsies are preferred over fine needle aspiration. (Moderate Recommendation; Evidence Level: Grade C)

### Management

#### Partial Nephrectomy (PN) and Nephron-sparing Approaches

Physicians should prioritize PN for the management of the cT1a renal mass when intervention is indicated. In this setting, PN minimizes the risk of CKD or CKD progression and is associated with favorable oncologic outcomes, including excellent local control. (Moderate Recommendation; Evidence Level: Grade B)

Physicians should prioritize nephron-sparing approaches for patients with solid or Bosniak 3/4 complex cystic renal masses and an anatomic or functionally solitary kidney, bilateral tumors, known familial renal cell carcinoma (RCC), preexisting CKD, or proteinuria. (Moderate Recommendation; Evidence Level: Grade C)

Physicians should consider nephron-sparing approaches for patients with solid or Bosniak 3/4 complex cystic renal masses who are young, have multifocal masses, or comorbidities that are likely to impact renal function in the future, such as moderate to severe hypertension, diabetes mellitus, recurrent urolithiasis, or morbid obesity. (Conditional Recommendation; Evidence Level: Grade C)

In patients who elect PN, physicians should prioritize preservation of renal function through efforts to optimize nephron mass preservation and avoidance of prolonged warm ischemia. (Expert Opinion)

For patients undergoing PN, negative surgical margins should be a priority. The extent of normal parenchyma removed should be determined by surgeon discretion taking into account the clinical situation, tumor characteristics including growth pattern, and interface with normal tissue. Tumor enucleation should be considered in patients with familial RCC, multifocal disease, or severe CKD to optimize parenchymal mass preservation. (Expert Opinion)

## Radical Nephrectomy (RN)

Physicians should consider RN for patients with a solid or Bosniak 3/4 complex cystic renal mass where increased oncologic potential is suggested by tumor size, RMB, and/or imaging characteristics and in whom active treatment is planned. (Conditional Recommendation; Evidence Level: Grade B) In this setting, RN is preferred if all of the following criteria are met: 1) high tumor complexity and PN would be challenging even in experienced hands; 2) no preexisting CKD or proteinuria; and 3) normal contralateral kidney and new baseline eGFR will likely be greater than 45 ml/min/1.73 m<sup>2</sup>. (Expert Opinion)

## Surgical Principles

For patients who are undergoing surgical excision of a renal mass with clinically concerning regional lymphadenopathy, physicians should perform a lymph node dissection for staging purposes. (Expert Opinion)

For patients who are undergoing surgical excision of a renal mass, physicians should perform adrenalectomy if imaging and/or intraoperative findings suggest metastasis or direct invasion of the adrenal gland. (Clinical Principle)

In patients undergoing surgical excision of a renal mass, a minimally invasive approach should be considered when it would not compromise oncologic, functional and perioperative outcomes. (Expert Opinion)

Pathologic evaluation of the adjacent renal parenchyma should be performed after PN or RN to assess for possible intrinsic renal disease, particularly for patients with CKD or risk factors for developing CKD. (Clinical Principle)

## Thermal Ablation (TA)

Physicians should consider TA as an alternate approach for the management of cT1a renal masses <3 cm in size. For patients who elect TA, a percutaneous technique is preferred over a surgical approach whenever feasible to minimize morbidity. (Conditional Recommendation; Evidence Level: Grade C)

Both radiofrequency ablation and cryoablation are options for patients who elect thermal ablation. (Conditional Recommendation; Evidence Level: Grade C)

A renal mass biopsy should be performed prior to ablation to provide pathologic diagnosis and guide subsequent surveillance. (Expert Opinion)

Counseling about thermal ablation should include information regarding an increased likelihood of tumor persistence or local recurrence after primary thermal ablation relative to surgical extirpation, which may be addressed with repeat ablation if further intervention is elected. (Strong Recommendation; Evidence Level: Grade B)

## Active Surveillance (AS)

For patients with small solid or Bosniak 3/4 complex cystic renal masses, especially those <2 cm, AS is an option for initial management. (Conditional Recommendation; Evidence Level: Grade C)

For patients with a solid or Bosniak 3/4 complex cystic renal mass, physicians should prioritize active surveillance/expectant management when the anticipated risk of intervention or competing risks of death outweigh the potential oncologic benefits of active treatment. (Clinical Principle)

For patients with a solid or Bosniak 3/4 complex cystic renal mass in whom the risk/benefit analysis for treatment is equivocal and who prefer AS, physicians should repeat imaging in 3 to 6 months to assess for interval growth and may consider RMB for additional risk stratification. (Expert Opinion)

For patients with a solid or Bosniak 3/4 complex cystic renal mass in whom the anticipated oncologic benefits of intervention outweigh the risks of treatment and competing risks of death, physicians should recommend active treatment. In this setting, AS with potential for delayed intervention may be pursued only if the patient understands and is willing to accept the associated oncologic risk. (Moderate Recommendation; Evidence Level: Grade C)

## Definitions

### Body of Evidence Strength

Grade A: Well-conducted and highly-generalizable randomized controlled trials (RCTs) or exceptionally strong observational studies with consistent findings

Grade B: RCTs with some weaknesses of procedure or generalizability or moderately strong observational studies with consistent findings

Grade C: RCTs with serious deficiencies of procedure, generalizability, or extremely small sample sizes or observational studies that are inconsistent, have small sample sizes, or have other problems that potentially confound interpretation of data

Note: By definition, Grade A evidence is evidence about which the Panel has a high level of certainty, Grade B evidence is evidence about which the Panel has a moderate level of certainty, and Grade C evidence is evidence about which the Panel has a low level of certainty.

American Urological Association (AUA) Nomenclature Linking Statement Type to Level of Certainty, Magnitude of Benefit or Risk/Burden, and Body of Evidence Strength

	<b>Evidence Strength A (High Certainty)</b>	<b>Evidence Strength B (Moderate Certainty)</b>	<b>Evidence Strength C (Low Certainty)</b>
<b>Strong Recommendation</b>  (Net benefit or harm substantial)	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is substantial  Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is substantial  Applies to most patients in most circumstances but better evidence could change confidence	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is substantial  Applies to most patients in most circumstances but better evidence is likely to change confidence (rarely used to support a Strong Recommendation)
<b>Moderate Recommendation</b>  (Net benefit or harm moderate)	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is moderate  Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is moderate  Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) appears moderate  Applies to most patients in most circumstances and future research is unlikely to change confidence
<b>Conditional Recommendation</b>  (No apparent net benefit or harm)	Benefits = Risks/Burdens  Best action depends on individual patient circumstances  Future research unlikely to change confidence	Benefits = Risks/Burdens  Best action depends on individual patient circumstances  Better evidence could change confidence	Balance between Benefits & Risks/Burdens unclear  Alternative strategies may be equally reasonable  Better evidence likely to change confidence
<b>Clinical Principle</b>	A statement about a component of clinical care that is widely agreed upon by urologists or other clinicians for which there may or may not be evidence in the medical literature		
<b>Expert Opinion</b>	A statement, achieved by consensus of the Panel, that is based on members' clinical training, experience, knowledge, and judgment for which there is no evidence		

## Clinical Algorithm(s)

An algorithm titled "Algorithm for active surveillance or expectant management of localized renal masses suspicious for malignancy" is provided in the original guideline document.

An additional algorithm for management of renal mass and localized renal cancer is provided on the [American Urological Association \(AUA\) Web site](#) .

## Scope

### Disease/Condition(s)

- Renal mass
- Renal cancer

### Guideline Category

Evaluation

Management

Treatment

### Clinical Specialty

Internal Medicine

Nephrology

Oncology

Surgery

Urology

### Intended Users

Physicians

### Guideline Objective(s)

To develop recommendations that are analysis-based or consensus-based, depending on Panel processes and available data, for optimal clinical practices in the treatment of renal mass and localized renal cancer

### Target Population

Adults with clinically localized sporadic renal masses suspicious for renal cell carcinoma (RCC)

### Interventions and Practices Considered

Evaluation and Diagnosis

Abdominal imaging  
Characterization of the renal mass  
Comprehensive metabolic panel  
Complete blood count  
Urinalysis  
Chest imaging  
Chronic kidney disease (CKD) staging based on glomerular filtration rate (GFR) and degree of proteinuria

#### Treatment/Management

Counseling, including referral  
Multidisciplinary team management  
Renal mass biopsy (RMB)  
Partial nephrectomy (PN) and nephron-sparing approaches  
Radical nephrectomy (RN)  
Surgical excision of renal mass  
    Lymph node dissection  
    Adrenalectomy  
    Use of minimally invasive approach  
    Pathologic evaluation of the adjacent renal parenchyma  
Thermal ablation (TA)  
Active Surveillance

## Major Outcomes Considered

- Sensitivity and specificity of diagnostic tests
- Renal functional outcomes
- Perioperative outcomes
- Health-related quality of life
- Local control
- Local recurrence free survival
- Overall survival
- Cancer-specific survival
- Postoperative harms

## Methodology

### Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Searches of Unpublished Data

### Description of Methods Used to Collect/Select the Evidence

#### Systematic Review

The systematic review utilized in the creation of this guideline was completed in part through the Agency for Healthcare Research and Quality (AHRQ) and through additional supplementation that further addressed additional key questions and more recently published literature. A research librarian experienced in conducting literature searches for comparative effectiveness reviews searched in MEDLINE®, EMBASE®, the Cochrane Library, the Database of Abstracts of Reviews of Effects, the Health

Technology Assessment Database, and the UK National Health Service Economic Evaluation database to capture both published and gray literature published from January 1, 1997 through May 1, 2015. A supplemental search was conducted adding additional literature published through August 2015, and a final update search was conducted through July 2016.

Refer to the AHRQ review (see the "Availability of Companion Documents" field) for specific information on study selection and additional search methods, as well as key questions.

## Number of Source Documents

The search identified 147 studies, published in 150 articles. The supplemental search added 43 studies.

## Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

## Rating Scheme for the Strength of the Evidence

### Body of Evidence Strength

Grade A: Well-conducted and highly-generalizable randomized controlled trials (RCTs) or exceptionally strong observational studies with consistent findings

Grade B: RCTs with some weaknesses of procedure or generalizability or moderately strong observational studies with consistent findings

Grade C: RCTs with serious deficiencies of procedure, generalizability, or extremely small sample sizes or observational studies that are inconsistent, have small sample sizes, or have other problems that potentially confound interpretation of data

Note: By definition, Grade A evidence is evidence about which the Panel has a high level of certainty, Grade B evidence is evidence about which the Panel has a moderate level of certainty, and Grade C evidence is evidence about which the Panel has a low level of certainty.

## Methods Used to Analyze the Evidence

Meta-Analysis

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

## Description of the Methods Used to Analyze the Evidence

### Assessment of Risk-of-Bias of Individual Studies

Paired investigators independently screened search results to assess eligibility. Investigators abstracted data sequentially and assessed risk of bias independently. Investigators graded the strength of evidence as a group. Citations were screened independently by two reviewers using predefined eligibility criteria. One reviewer completed data abstraction and a second reviewer checked abstraction for accuracy. Two reviewers independently assessed risk of bias for individual studies. The Cochrane Collaboration's tool was used for assessing the risk of bias of randomized controlled trials (RCTs). For nonrandomized studies of treatment interventions, the reviewers used the Cochrane Risk of Bias Assessment Tool for Non-Randomized Studies of Interventions (ACROBAT-NRSI). For diagnostic studies, the quality assessment tool for diagnostic accuracy studies (QUADAS-2) was used. Differences between reviewers were resolved through consensus.



## Determination of Evidence Strength

The categorization of evidence strength is conceptually distinct from the quality of individual studies. Evidence strength refers to the body of evidence available for a particular question and includes not only individual study quality but consideration of study design, consistency of findings across studies, adequacy of sample sizes, and generalizability of samples, settings, and treatments for the purposes of the guideline. See the "Rating Scheme for the Strength of the Evidence" field for the categories of the body of evidence.

Refer to the Agency for Healthcare Research and Quality (AHRQ) review for information on data abstraction and management.

## Methods Used to Formulate the Recommendations

Expert Consensus

Expert Consensus (Delphi)

## Description of Methods Used to Formulate the Recommendations

### Process

The Renal Mass and Localized Renal Cancer Panel was created in 2014 by the American Urological Association Education and Research, Inc. (AUA). The Practice Guidelines Committee (PGC) of the AUA selected the Panel Chair who in turn appointed the Vice Chair. In a collaborative process, additional Panel members, including additional members of the College of American Pathologists (CAP), Society of Urologic Oncology (SUO), American College of Radiology (ACR), American Society of Nephrology (ASN), Endourological Society, and Society of Interventional Radiology (SIR) with specific expertise in this area, were then nominated and approved by the PGC.

### AUA Nomenclature: Linking Statement Type to Evidence Strength

The AUA nomenclature system explicitly links statement type to body of evidence strength, level of certainty, magnitude of benefit or risk/burdens, and the Panel's judgment regarding the balance between benefits and risks/burdens (see the "Rating Scheme for the Strength of the Recommendations" field).

Where gaps in the evidence existed, the Panel provides guidance in the form of *Clinical Principles* or *Expert Opinion* with consensus achieved using a modified Delphi technique if differences of opinion emerged.

## Rating Scheme for the Strength of the Recommendations

### American Urological Association (AUA) Nomenclature Linking Statement Type to Level of Certainty, Magnitude of Benefit or Risk/Burden, and Body of Evidence Strength

	<b>Evidence Strength A (High Certainty)</b>	<b>Evidence Strength B (Moderate Certainty)</b>	<b>Evidence Strength C (Low Certainty)</b>
Strong Recommendation  (Net benefit or harm substantial)	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is substantial  Applies to most patients in most	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is substantial  Applies to most patients in most	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is substantial  Applies to most patients in most circumstances but better evidence is likely to change confidence

	<b>Evidence Strength A (High Certainty)</b> circumstances and future research is unlikely to change confidence	<b>Evidence Strength B (Moderate Certainty)</b> circumstances, but better evidence could change confidence	<b>Evidence Strength C (Low Certainty)</b> (rarely used to support a Strong Recommendation)
<b>Moderate Recommendation</b>  (Net benefit or harm moderate)	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is moderate  Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) is moderate  Applies to most patients in most circumstances and future research is unlikely to change confidence	Benefits > Risks/Burdens (or vice versa)  Net benefit (or net harm) appears moderate  Applies to most patients in most circumstances and future research is unlikely to change confidence
<b>Conditional Recommendation</b>  (No apparent net benefit or harm)	Benefits = Risks/Burdens  Best action depends on individual patient circumstances  Future research unlikely to change confidence	Benefits = Risks/Burdens  Best action depends on individual patient circumstances  Better evidence could change confidence	Balance between Benefits & Risks/Burdens unclear  Alternative strategies may be equally reasonable  Better evidence likely to change confidence
<b>Clinical Principle</b>	A statement about a component of clinical care that is widely agreed upon by urologists or other clinicians for which there may or may not be evidence in the medical literature		
<b>Expert Opinion</b>	A statement, achieved by consensus of the Panel, that is based on members' clinical training, experience, knowledge, and judgment for which there is no evidence		

## Cost Analysis

While cost-effectiveness remains unanswered due to limitations of the data and considerations of long-term surveillance; the potential increase in costs related to certain minimally invasive approaches may be balanced with shorter hospital stays and earlier convalescence.

## Method of Guideline Validation

Peer Review

## Description of Method of Guideline Validation

The American Urological Association Education and Research, Inc. (AUA) conducted a thorough peer review process. The draft guidelines document was distributed to 124 peer reviewers, 54 of which submitted comments. The Panel reviewed and discussed all submitted comments and revised the draft as needed. Once finalized, the guideline was submitted for approval to the Practice Guidelines Committee (PGC) and Science and Quality Council (S&Q). Then it was submitted to the AUA and College of American Pathologists (CAP), Society of Urologic Oncology (SUO), American College of Radiology (ACR), American Society of Nephrology (ASN), Endourological Society, and Society of Interventional Radiology (SIR) Board of Directors for final approval. It was approved by the AUA Board of Directors in April 2017.

## Evidence Supporting the Recommendations

## Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Where gaps in the evidence existed, the Panel provides guidance in the form of *Clinical Principles* or *Expert Opinion* with consensus achieved using a modified Delphi technique if differences of opinion emerged.

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

- Recognition of familial forms of renal cell carcinoma (RCC) can be of great benefit to patients and their families. Proactive management of RCC and other familial manifestations may considerably lessen the morbidity and mortality associated with these syndromes.
- Radical nephrectomy (RN) is associated with favorable perioperative outcomes and a low risk of urologic complications compared to partial nephrectomy (PN).
- PN offers excellent preservation of renal parenchyma and glomerular filtration rate (GFR).
- In the systematic review, thermal ablation (TA) had the most favorable perioperative outcome profile and a similar low risk of harms when compared to other strategies. Success rates with TA are highest with small peripheral tumors.
- Active surveillance (AS) offers favorable oncologic and overall survival outcomes in well-selected patients, albeit in limited studies with relatively short follow-up. AS forgoes the operative risks associated with other management strategies.

The magnitude of benefit or risk/burdens, and the Panel's judgment regarding the balance between benefits and risks/burdens are taken into account for each guideline statement. Refer to the original guideline document for a discussion of evidence of benefits for specific statements.

### Potential Harms

- The risks of diagnostic studies include radiation exposure (CT) and contrast administration (gadolinium-induced nephrogenic systemic fibrosis and contrast-induced nephropathy or allergic reaction).
- It should be noted that each treatment strategy (radical nephrectomy [RN], partial nephrectomy [PN], or thermal ablation [TA]) has similar rates of minor and major complications but a unique profile of these complications that should be discussed with patients.
- Radical nephrectomy (RN) is associated with the greatest decrease in glomerular filtration rate and highest risk of de novo chronic kidney disease (CKD) stage 3 or higher.
- Partial nephrectomy (PN) carries a higher risk of blood transfusions and urologic complications (e.g., urine leak) than other modalities. These complications may subject a small proportion of patients to additional treatments (e.g., ureteral stents, abdominal drains, embolization of pseudoaneurysm).
- Thermal ablation (TA) carries an inferior local recurrence free survival (LRFS) when considering primary efficacy that may mandate secondary interventions.
- Active surveillance potentially introduces anxieties and oncologic risks not suitable for all patients.

The magnitude of benefit or risk/burdens, and the Panel's judgment regarding the balance between benefits and risks/burdens are taken into account for each guideline statement. Refer to the original guideline document for a discussion of evidence of harms for specific statements.

# Contraindications

## Contraindications

Administration of intravenous contrast should be avoided if possible in patients with severe chronic kidney disease (CKD) who are nearing dialysis. Magnetic resonance imaging (MRI) is appropriate for patients with contraindications to iodinated contrast and may provide improved characterization of small renal tumors, particularly those less than 2 cm in diameter.

## Qualifying Statements

### Qualifying Statements

- While these guidelines do not necessarily establish the standard of care, the American Urological Association Education and Research, Inc. (AUA) seeks to recommend and to encourage compliance by practitioners with current best practices related to the condition being treated. As medical knowledge expands and technology advances, the guidelines will change. Today these evidence-based guidelines statements represent not absolute mandates but provisional proposals for treatment under the specific conditions described in each document. For all these reasons, the guidelines do not pre-empt physician judgment in individual cases.
- Treating physicians must take into account variations in resources, and patient tolerances, needs, and preferences. Conformance with any clinical guideline does not guarantee a successful outcome. The guideline text may include information or recommendations about certain drug uses ('off label') that are not approved by the Food and Drug Administration (FDA), or about medications or substances not subject to the FDA approval process. AUA urges strict compliance with all government regulations and protocols for prescription and use of these substances. The physician is encouraged to carefully follow all available prescribing information about indications, contraindications, precautions and warnings. These guidelines and best practice statements are not intended to provide legal advice about use and misuse of these substances.
- Although guidelines are intended to encourage best practices and potentially encompass available technologies with sufficient data as of close of the literature review, they are necessarily time-limited. Guidelines cannot include evaluation of all data on emerging technologies or management, including those that are FDA-approved, which may immediately come to represent accepted clinical practices. For this reason, the AUA does not regard technologies or management which are too new to be addressed by this guideline as necessarily experimental or investigational.

## Implementation of the Guideline

### Description of Implementation Strategy

An implementation strategy was not provided.

### Implementation Tools

Clinical Algorithm

Mobile Device Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources*

fields below.

# Institute of Medicine (IOM) National Healthcare Quality Report Categories

## IOM Care Need

Getting Better

Living with Illness

## IOM Domain

Effectiveness

Patient-centeredness

## Identifying Information and Availability

### Bibliographic Source(s)

Campbell C, Uzzo RG, Allaf ME, Bass EB, Cadeddu JA, Chang A, Clark PE, Davis BJ, Derweesh IH, Giambarresi L, Gervais DA, Hu SL, Lane BR, Leibovich BC, Pierorazio PM. Renal mass and localized renal cancer: AUA guideline. Linthicum (MD): American Urological Association Education and Research, Inc.; 2017 Apr. 50 p. [264 references]

### Adaptation

Not applicable: The guideline was not adapted from another source.

### Date Released

2017 Apr

### Guideline Developer(s)

American Urological Association Education and Research, Inc. - Medical Specialty Society

### Source(s) of Funding

Funding of the Panel was provided by the American Urological Association (AUA). Panel members received no remuneration for their work.

### Guideline Committee

Renal Mass and Localized Renal Cancer Guideline Panel

## Composition of Group That Authored the Guideline

*Panel Members:* Steven Campbell, MD (*Chair*), Cleveland Clinic Foundation, Cleveland, OH; Robert G. Uzzo, MD (*Vice Chair*), Fox Chase Cancer Center, Philadelphia, PA; Mohamad E. Allaf, MD, Johns Hopkins University School of Medicine, Baltimore, MD; Jeffrey A. Cadeddu, MD, UT Southwestern, Dallas, TX; Anthony Chang, MD, University of Chicago, Chicago, IL; Peter Earl Clark, MD (*Practice Guidelines Committee [PGC] Representative*) Vanderbilt University Medical Center, Nashville, TN; Brian J. Davis, MD, PhD, Mayo Clinic, Department of Radiation Oncology, Rochester, MN; Ithaar H. Derweesh, MD, University of California San Diego, La Jolla, CA; Leo Giambarresi, PhD (*Patient Advocate*); Debra A. Gervais, MD, Massachusetts General Hospital, Boston, MA; Susie L. Hu, MD, University Medicine, Providence, RI; Brian R. Lane, MD, PhD, Spectrum Health Medical Group - Urology, Grand Rapids, MI; Bradley C. Leibovich, MD, FACS, Mayo Clinic, Department of Urology, Rochester, MN; Phillip M. Pierorazio, MD, Johns Hopkins University School of Medicine, Baltimore, MD

## Financial Disclosures/Conflicts of Interest

### Conflict of Interest (COI) Disclosures

All panel members completed COI disclosures. Disclosures listed include both topic- and non-topic-related relationships.

Consultant/Advisor: Jeffrey A. Cadeddu, Levita Magnetics; Peter E. Clark, Galil Medical, Genentech; Phillip. M. Pierorazio, Myriad Genetics

Meeting Participant or Lecturer: Anthony Chang, Alexion Pharmaceuticals; Robert G. Uzzo, Janssen

Scientific Study or Trial: Jeffrey A. Cadeddu, Levita Magnetics; Ithaar H. Derweesh, GalxoSmithKline, Inc., Pfizer, Inc.

Leadership Position: Brian J. Davis, American College of Radiology, American Board of Radiology; Leo I. Giambarresi, ZERO-The End of Prostate Cancer

Investment Interest: Jeffrey A. Cadeddu, Titan Medical Inc., Transenterix; Brian J. Davis, Pfizer Inc.

Health Publishing: Anthony Chang, Elsevier

Other: Leo I. Giambarresi, SAR International Inc.

## Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

## Guideline Availability

Available from the [American Urological Association Education and Research, Inc. \(AUA\) Web site](#)

## Availability of Companion Documents

The following is available:

Pierorazio PM, Johnson MH, Patel HD, Sozio SM, Sharma R, Iyoha E, Bass EB, Allaf ME. Management of renal masses and localized renal cancer. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2016 Feb. 794 p. (Comparative effectiveness review; no. 167). Available from the

[Agency for Healthcare Research and Quality \(AHRQ\) Web site](#) .

The AUA Guidelines-At-A-Glance mobile app is available for download from the [American Urological Association Education and Research, Inc. \(AUA\) Web site](#) .

## Patient Resources

None available

## NGC Status

This NGC summary was completed by ECRI Institute on November 3, 2017. The information was not verified by the guideline developer.

This NEATS assessment was completed by ECRI Institute on October 16, 2017. The information was verified by the guideline developer on December 15, 2017.

## Copyright Statement

This NGC summary is based on the original guideline, which is copyrighted by the American Urological Association Education and Research, Inc. (AUA).

## Disclaimer

### NGC Disclaimer

The National Guideline Clearinghouse® (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the [NGC Inclusion Criteria](#).

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.